

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1.(Currently Amended) A method of encoding a multichannel signal including at least a first signal component and a second signal component, the method comprising the acts of:

transforming at least the first and second signal components by a predetermined transformation into a principal signal including most of the signal energy and at least one residual signal including less energy than the principal signal, the predetermined transformation being parameterised by at least one transformation parameter;

representing the multichannel signal at least by the principal signal, ~~and the transformation parameter~~ and the at least one residual signal;
encoding the principal signal with a first bit rate; and
encoding the at least one residual signal with a second bit rate smaller than the first bit rate; and

adaptively determining the transformation parameter based on at least the first and second signal components.

Claim 2 (Canceled)

3.(Previously Presented) The method according to claim 1, wherein the principal signal corresponds to a principal component of the first and second signal components.

4.(Previously Presented) The method according to claim 1, wherein the predetermined transformation is a rotation and the transformation parameter corresponds to an angle of rotation.

Claims 5-6 (Canceled)

7.(Currently Amended) The method according to claim 1, wherein the principal signal corresponds to a first signal energy and the at least one residual signal corresponds to a second signal energy smaller than the first signal energy.

8.(Currently Amended) The method according to claim 1, wherein the method further comprises the act of estimating the at least one residual signal from the principal signal using a prediction filter corresponding to a set of filter parameters; and

the act of representing the multichannel signal at least by the principal signal and the transformation parameter comprises the act of representing the multichannel signal by the principal signal, the transformation parameter, and the set of filter parameters.

9.(Previously Presented) The method according to claim 1, wherein the multichannel signal comprises a stereophonic signal including a left and a right signal component.

10.(Currently Amended) A method of decoding multichannel signal information, the method comprising the acts of:

receiving a principal signal encoded with a first bit rate, at least one residual signal encoded with a second bit rate, and a transformation parameter, wherein the second bit rate is smaller than the first bit rate, the principal signal corresponding to a result of a predetermined transformation of at least a first and a second signal component of a multichannel source signal, the predetermined transformation being

parameterised by at least the transformation parameter, wherein the transformation parameter is adaptively determined based on at least the first and second signal components; and

generating a first and a second decoded signal component by inversely transforming the received principal signal and the at least one residual signal.

Claim 11 (Canceled)

12.(Currently Amended) The method according to claim 10, wherein the act of receiving the principal signal and the transformation parameter further comprises the act of receiving a set of filter parameters, and the method further comprises the act of predicting the at least one residual signal from the principal signal using a prediction filter corresponding to the received set of filter parameters.

13.(Currently Amended) An arrangement for encoding a multichannel signal including at least a first signal component and a second signal component, the arrangement comprising:

first processing means adapted to transform at least the first and second signal components by a predetermined transformation into a principal signal including most of the signal energy and at least one residual signal including less energy than the principal signal, the predetermined transformation being parameterised by at least one transformation parameter, to encode the principal signal with a first bit rate; and to encode the at least one residual signal with a second bit rate smaller than the first bit rate; wherein the transformation parameter is adaptively determined based on at least the first and second signal components; and

second processing means adapted to represent the multichannel signal at least by the principal signal, and the transformation parameter and the at least one residual signal.

14.(Currently Amended) An arrangement for decoding multichannel signal information, the arrangement comprising

receiving means for receiving a principal signal encoded with a first bit rate, at least one residual signal encoded with a second bit rate, and a transformation parameter, wherein the second bit rate is smaller than the first bit rate, the principal signal corresponding to a result of a predetermined transformation of a first and a second multichannel source signal, the predetermined transformation being parameterised by at least the transformation parameter, wherein the transformation parameter is adaptively determined based on at least the first and second signal components; and

processing means for generating a first and a second multichannel signal by inversely transforming the received principal signal and a residual signal.

Claim 15 (Canceled)

16.(Currently Amended) A computer-readable medium comprising computer program code for causing a computer to:

transform at least first and second signal components of a multichannel signal by a predetermined transformation into a principal signal including most of the signal energy and at least one residual signal including less energy than the principal signal, the predetermined transformation being parameterised by at least one transformation parameter, wherein the transformation parameter is adaptively determined based on at least the first and second signal components; and

represent the multichannel signal at least by the principal signal, and the transformation parameter and the at least one residual signal;
encoding the principal signal with a first bit rate; and
encoding the at least one residual signal with a second bit rate smaller than the first bit rate.

17.(Currently Amended) A device for communicating a multichannel signal including at least a first signal component and a second signal component, the device comprising an arrangement for encoding the multichannel signal, the arrangement including

first processing means adapted to transform at least the first and second signal components by a predetermined transformation into a principal signal including most of the signal energy and at least one residual signal including less energy than the principal signal, the predetermined transformation being parameterised by at least one transformation parameter, wherein the transformation parameter is adaptively determined based on at least the first and second signal components; and

second processing means adapted to represent the multichannel signal at least by the principal signal, and the transformation parameter and the at least one residual signal;

encoding the principal signal with a first bit rate; and

encoding the at least one residual signal with a second bit rate smaller than the first bit rate.

18.(Currently Amended) ~~The method of claim 1, further comprising the act of~~
A method of encoding a multichannel signal including at least a first signal component and a second signal component, the method comprising the acts of:

transforming at least the first and second signal components by a predetermined transformation into a principal signal including most of the signal energy and at least one residual signal including less energy than the principal signal, the predetermined transformation being parameterized by at least one transformation parameter;

representing the multichannel signal at least by the principal signal, and the transformation parameter;

adaptively determining the transformation parameter based on at least the first and second signal components; and

controlling a prediction filter by an error signal indicative of a difference of the at least one residual signal and an estimate of the at least one residual signal.

19.(Currently Amended) The method of claim 18, wherein the estimate of the at least one residual signal is formed from the principal signal using the prediction filter.

20.(New) An arrangement for encoding a multichannel signal including at least a first signal component and a second signal component, the arrangement comprising:

first processing means adapted to transform at least the first and second signal components by a predetermined transformation into a principal signal including most of the signal energy and at least one residual signal including less energy than the principal signal, the predetermined transformation being parameterized by at least one transformation parameter, and to control a prediction filter by an error signal indicative of a difference of the at least one residual signal and an estimate of the at least one residual signal, wherein the transformation parameter is adaptively determined based on at least the first and second signal components; and

second processing means adapted to represent the multichannel signal at least by the principal signal and the transformation parameter.

21.(New) A computer-readable medium comprising computer program code for causing a computer to:

transform at least first and second signal components of a multichannel signal by a predetermined transformation into a principal signal including most of the signal energy and at least one residual signal including less energy than the principal signal, the predetermined transformation being parameterized by at least one transformation parameter, wherein the transformation parameter is adaptively determined based on at least the first and second signal components;

represent the multichannel signal at least by the principal signal and the transformation parameter; and

control a prediction filter by an error signal indicative of a difference of the at least one residual signal and an estimate of the at least one residual signal.

22.(New) A device for communicating a multichannel signal including at least a first signal component and a second signal component, the device comprising an arrangement for encoding the multichannel signal, the arrangement including

first processing means adapted to transform at least the first and second signal components by a predetermined transformation into a principal signal including most of the signal energy and at least one residual signal including less energy than the principal signal, the predetermined transformation being parameterized by at least one transformation parameter, and to control a prediction filter by an error signal indicative of a difference of the at least one residual signal and an estimate of the at least one residual signal, wherein the transformation parameter is adaptively determined based on at least the first and second signal components; and

second processing means adapted to represent the multichannel signal at least by the principal signal and the transformation parameter.